

## REMARKS/ARGUMENTS

### Election / Restriction

Applicants hereby confirm election of claims 1-8 and 19-23. Applicants reserve the right, upon allowance of the generic claim, request consideration of the non-elected claims.

### Specification / Abstract

In response to the Examiner's request, Applicants have amended the abstract and removed the word "comprises".

### Claim Rejections

#### **Rejections under 35 U.S.C. 102(b)**

In the Office Action mailed March 10, 2005, the Examiner rejected claims 1-8 and 19-23 under 35 U.S.C. 102(b) as being anticipated by Frankeny et al., (hereinafter "Frankeny") US Patent No. 5,745,333. In response, Applicants have amended claim 1 to clearly recite the "interconnection cavities extending into, but not through, the substrate, each exposing one or more of the one or more conductive inner layers" (see e.g. Fig. 5 and/or 6). *Frankeny* teaches two types of vias. A first conventional type via 47 that not only extends into but also extends completely through the substrate. A second "blind" type via 48 extends into, but not through, the substrate. However, the walls of the "blind" type vias are coated isolating as opposed to exposing inner layers of the substrate. Accordingly, *Frankeny* fails to anticipate the recited interconnection cavities. Therefore, for at least the reasons discussed above Applicants respectfully submit claim 1 is patentable over *Frankeny*.

Claim 19 has been amended to include similar features as claim 1 and is therefore, likewise patentable over *Frankeny*. Claims 2-8 and 20-23 depend from and add additional features to independent claims 1 and 19. Thus, by virtue of their dependency to claims 1 and 19, and for at least the same reasons provided above as they relate to claims 1 and 19, claims 2-7 and 20-23 are patentable over *Frankeny*.

### **Rejections under 35 U.S.C. § 102(e)**

The Examiner rejected claims 1-8 and 19-23 under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Application Publication No. 6,660,945 to Boyko et al. ("Boyko"). Applicants respectfully request reconsideration of this rejection for the following reasons.

As for claim 1, claim 1 has been amended to recite the "interconnection cavities extending into, but not through, the substrate, each exposing one or more of the one or more conductive inner layers." *Boyko* does NOT disclose, teach or suggest such a feature. Instead, *Boyko* merely discloses a second conductive material **122** positioned on the internal walls **119** of a microvia **120** positioned directly over a through hole **108** that extends completely through the substrate.

Therefore, *Boyko*,fails to disclose, teach or suggest the recited "interconnection cavities." Thus claim 1 is patentable over *Boyko*. Claim 19 has also been amended to include similar features as claim 1, and is therefore, likewise patentable over *Boyko*. Claims 2-8 and 20-23 depend from and add additional features to claims 1 and 19. Thus, by virtue of their dependency, claims 2-8 and 20-23 are also patentable over *Boyko*.

### **Double-Patenting Rejection**

The Examiner provisionally rejected claims 1-8 and 19-23 under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 3, 4 11 and 15 of co-pending Application No. 10/337,949. The Applicant has enclosed a terminal disclaimer in compliance with 37 C.F.R. 1.321(c). Therefore, the Applicant respectfully requests that the Examiner withdraw these rejections of these claims.

**Conclusion**

In view of the foregoing, claims 1-8 and 19-23 are in condition of allowance. Early issuance of Notice of Allowance is respectfully requested. The Examiner is encouraged to telephone the undersigned if there are any remaining questions of patentability, and a telephone interview would be helpful in resolving these questions. If any fees are due in connection with filing this paper, the Commissioner is authorized to charge the Deposit Account of Schwabe, Williamson and Wyatt, P.C., No. 50-0393.

Respectfully submitted,  
SCHWABE, WILLIAMSON & WYATT, P.C.

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